

# KONA<sup>4</sup><sup>®</sup>

## Professional Performance

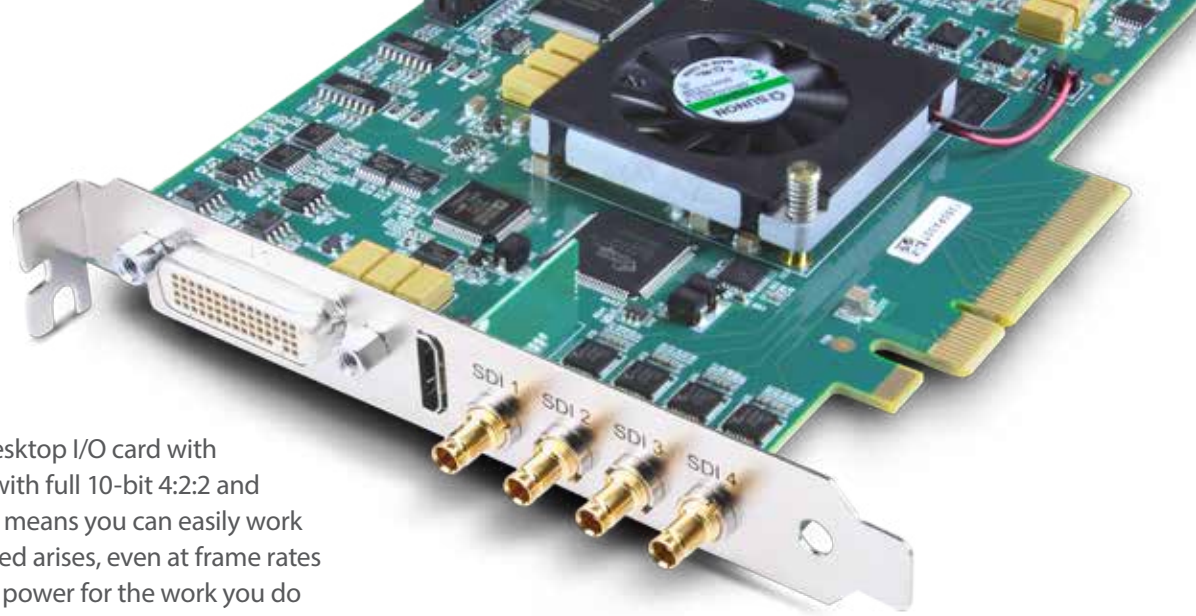
Top-of-the-line capabilities and quality make KONA 4 the go-to desktop I/O card.



**AJA**<sup>®</sup>  
VIDEO SYSTEMS

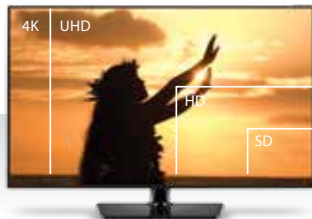
Because it matters.<sup>®</sup>

# KONA<sup>4</sup><sup>®</sup>



## Powerful integration. Professional connectivity.

KONA 4 offers users a single, powerful 8-lane PCIe 2.0 video and audio desktop I/O card with unparalleled features for handling everything from SD to HD, 2K and 4K with full 10-bit 4:2:2 and 4:4:4 color spaces for fantastic image clarity. The futureproof architecture means you can easily work with HD and 2K now and switch to working at 4K resolution when the need arises, even at frame rates up to 60 fps, without the requirement for new hardware. KONA 4 has the power for the work you do today and into the future.



### Powerful

KONA 4's extensive 4K support allows output directly from editing systems to 4K projectors or monitors, including HFR support at 50/60p and 4K HDMI output to support the latest UltraHD monitors, allowing editors and clients to view full resolution 4K images as they work.



### Integration

KONA 4's broadcast quality up, down, cross-converter unifies resolutions, simplifying workflows and eliminating the need to adjust resolution within software. The powerful hardware downstream keyer allows graphics and images to be overlaid on the video being input to the card.



### Professional Connectivity

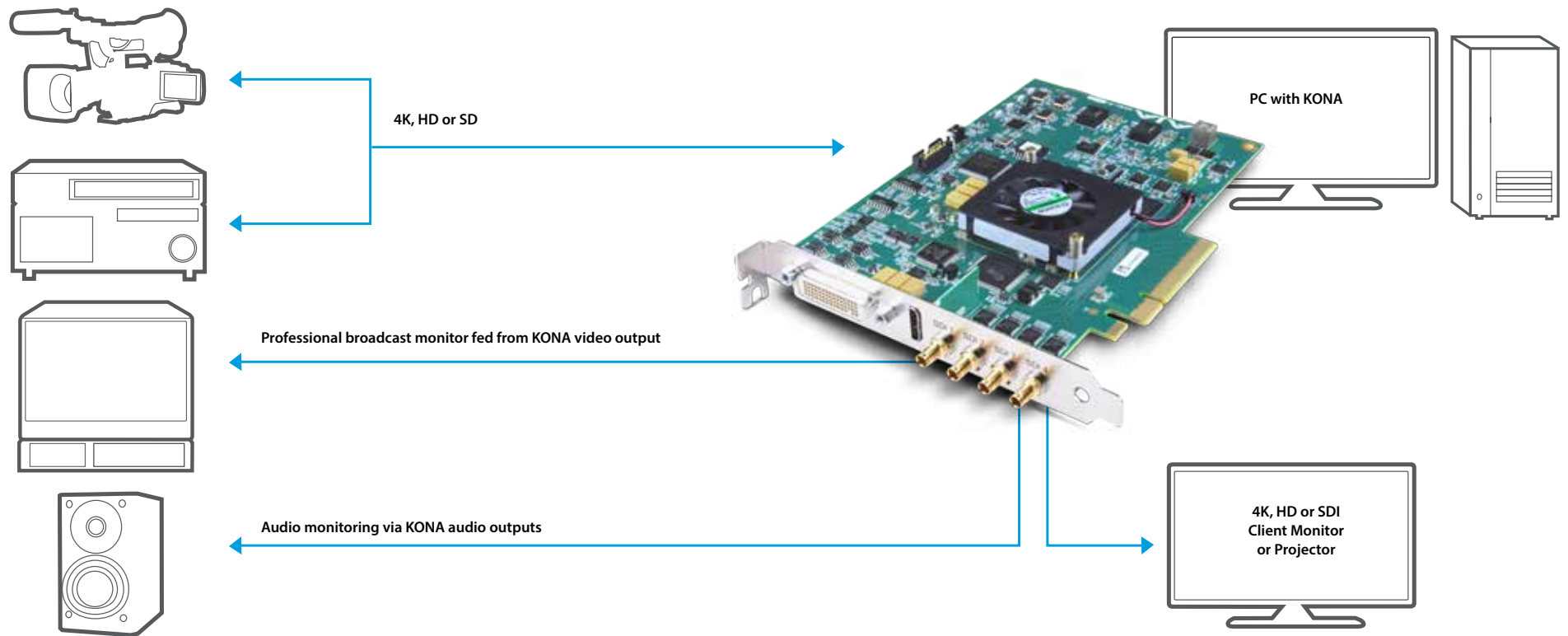
KONA 4 features bi-directional 3G/HD/SD connections that can be used for input and output. HDMI 1.4a monitoring output, LTC I/O, Genlock input, RS-422 control, configurable 3 x BNC SD/HD analog video output and 8-channel AES audio I/O allow KONA 4 to integrate into a variety of workflows.

## KONA 4 Features Include:

- Supports 4K and UltraHD ingest and output at frame rates up to 60p
- Real time up-,down-,cross conversion with pristine 10-bit quality
- Linux and Windows support via AJA's Developer SDK
- 10-bit 4K/UltraHD and 2K/Dual-link/HD/SD input and output
- HDMI 2.0b output, capable of UltraHD at 50/60p
- 8-ch. AES/EBU, 8-ch. embedded HDMI, and 16-ch. embedded SDI digital audio I/O
- Supports 4:2:2 and 4:4:4 workflows
- AJA Developer Partner support with Linux and Windows SDK
- Extend external connectivity with K3G-BOX breakout box option

# KONA<sup>4</sup><sup>®</sup>

## KONA-Powered Workflow



Connect your digital sources via SD/HD-SDI to KONA for capture and editing via a wide variety of formats.  
Master through high-quality professional SDI and Component outputs.

# Tech Specs

## Video Formats

- 525i 29.97
- 525i 23.98\*
- 625i 25
- 720p 23.98\*, 24\*, 25\*, 29.97\*, 30\*, 50, 59.94, 60
- 1080i 25, 29.97, 30
- 1080PsF 23.98, 24, 25, 29.97, 30
- 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- 2048 x 1080P 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- 2048 x 1080PsF 23.98, 24, 25
- 2048 x 1556p 15, 14.98
- 2048 x 1556PsF 15, 23.98, 24
- 3840 x 2160P 23.98, 24, 25, 50, 59.94, 60
- 4096 x 2160P 23.98, 24, 25, 50, 59.94, 60
- 3840 x 2160PsF 23.98, 24, 25
- 4096 x 2160PsF 23.98, 24, 25

\*These formats are dependent on specific software functionality and are not normal 'over-the-wire' formats.

## Video Input Digital

- 3G/SD/HD SDI, SMPTE-259/292/296/424, 8- or 10-bits
- Single Link 4:2:2 or 4:4:4 (1 x BNC)
- Dual Link HD 4:4:4 (2 x BNC)
- 2K HSDL (High Speed Data Link) 4:4:4, (2 x BNC)
- 4K/UltraHD
- 1D LUT Support

## Video Output Digital

- 3G-SDI, SMPTE-259/292/296/424
- Single Link 4:2:2 or 4:4:4 (1 x BNC)
- Dual Link HD 4:4:4, (2 x BNC)
- 2K HSDL (High Speed Data Link) 4:4:4, (2 x BNC)
- 4K/UltraHD 4:2:2 and 4:4:4
- HDMI v2.0b, 30/36 bits/pixel, RGB or YUV, 2.25Gbps, SD, HD and UHD with HFR support up to 60p 4:2:0

## Video Output Analog

- Composite/S-Video (Y/C) (1 x BNC/2x BNC+adapter)
- NTSC, NTSCJ, PAL
- Component (3 x BNC)
- HD: YPbPr, RGB
- SD: YPbPr, RGB (component mode)
- SMPTE/EBU N10, Betacam 525 line, Betacam 525J, RGB

## Video Output Analog Continued

- 12-bit D/A, 8x oversampling
- +/- .2 dB to 5.0 MHz Y Frequency Response
- +/- .2 dB to 1 MHz C Frequency Response
- 5% 2T pulse response
- <1% Diff Phase
- <1% Diff Gain
- <1% ns Y/C delay inequity

## Downstream Keyer

Supports graphics with alpha channel over video, matte or framebuffer, or framebuffer content over incoming video or matte.

## Audio Input Digital

- 16-channel, 24-bit SDI embedded audio, 48kHz sample rate, Synchronous
- 8-channel, 24-bit AES/EBU audio, 48kHz sample rate, Synchronous or Non-synchronous, Internal sample rate conversion (via 4 x BNC on breakout cable)
- 16-channel, 24-bit AES/EBU audio, 48 kHz sample rate, Synchronous (via 8 x BNC on optional K3G-Box)

## Audio Output Digital

- 16-channel, 24-bit SDI embedded audio, 48kHz sample rate, Synchronous
- 8-channel, 24-bit HDMI embedded audio, 48kHz sample rate, Synchronous
- 8-channel, 24-bit AES/EBU audio, 48kHz sample rate, Synchronous or Non-synchronous, Internal sample rate conversion (via 4 x BNC on breakout cable)
- 16-channel, 24-bit AES/EBU audio, 48 kHz sample rate, Synchronous (via 8 x BNC on optional K3G-Box)

## Up-Conversion

- Hardware 10-bit
- Anamorphic: full-screen
- Pillar box 4:3: results in a 4:3 image in center of screen with black sidebars
- Zoom 14:9: results in a 4:3 image zoomed slightly to fill a 14:9 image with black side bars
- Zoom Letterbox: results in image zoomed to fill full screen
- Zoom Wide: results in a combination of zoom and horizontal stretch to fill a 16:9 screen; this setting can introduce a small aspect ratio change

## Down-Conversion

- Hardware 10-bit
- Anamorphic: full-screen
- Letterbox: image is reduced with black top and bottom added to image area with the aspect ratio preserved
- Crop: image is cropped to fit new screen size

## Cross-Conversion

- Hardware 10-bit
- 1080i to 720p
- 720p to 1080i
- 720p to 1080PsF

## SD to SD Aspect Ration Conversion

- Letterbox: This transforms SD anamorphic material to a letterboxed image.
- H Crop: Will produce a horizontally stretched effect on the image; transforms anamorphic SD to full frame
- SD Pillarbox: Will produce an image in the center of the screen with black borders on the left and right sides and an anamorphized image in the center
- V Crop: Will transform SD letterbox material to an anamorphic image.

## Timecode

- LTC timecode input and output (via 1 x BNC each)

## Reference Input

- Analog Color Black (1V) or Composite Sync (2 or 4V)
- Looping
- 75 ohm on optional K3G-Box, terminated on supplied breakout cable

## Machine Control

- RS-422, Sony 9-pin protocol (via breakout cable or optional K3G-Box)
- 9-pin D-connector pinout is as follows:

1	GND
2	RX-
3	TX+
4	GND
5	No Connection
6	GND

7	RX+
8	TX-
9	GND
Shell	GND

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For full product specifications visit [www.aja.com/en/products/kona4/#techspecs](http://www.aja.com/en/products/kona4/#techspecs)



### 3-year warranty

AJA Video warrants that KONA products will be free from defects in materials and workmanship for a period of three years from the date of purchase.

### About AJA Video Systems, Inc.

Since 1993, AJA Video has been a leading manufacturer of video interface and conversion solutions, bringing high-quality, cost-effective digital video products to the professional, broadcast and post-production markets.

AJA products are designed and manufactured at our facilities in Grass Valley, California, and sold through an extensive sales channel of resellers and systems integrators around the world. For further information, please see our website at [www.aja.com](http://www.aja.com)

Because it matters.®

AJA Video Systems, Inc.  
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